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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/918,873

DATE: 03/18/2002^{1.5}
TIME: 14:57:16

Input Set : A:\09918873SeqList.txt

Output Set: N:\CRF3\03182002\I918873.raw

C--> 1 <110> APPLICANT: Goldsmith, Elizabeth J.
2 Radha, Akella
3 Gaynor, Richard B.
5 <120> TITLE OF INVENTION: CHIMERIZING PROTEIN KINASES FOR DRUG
6 DISCOVERY
8 <130> FILE REFERENCE: A33864 090495.0232
10 <140> CURRENT APPLICATION NUMBER: 09/918,873
11 <141> CURRENT FILING DATE: 2002-07-31
13 <160> NUMBER OF SEQ ID NOS: 39
15 <170> SOFTWARE: FastSEQ for Windows Version 4.0
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 360
19 <212> TYPE: PRT
20 <213> ORGANISM: Rattus norvegicus
22 <400> SEQUENCE: 1
23 Met Ser Gln Glu Arg Pro Thr Phe Tyr Arg Gln Glu Leu Asn Lys Thr
24 1 5 10 15
25 Ile Trp Glu Val Pro Glu Arg Tyr Gln Asn Leu Ser Pro Val Gly Ser
26 20 25 30
27 Gly Ala Tyr Gly Ser Val Cys Ala Ala Phe Asp Thr Lys Thr Gly His
28 35 40 45
29 Arg Val Ala Val Lys Lys Leu Ser Arg Pro Phe Gln Ser Ile Ile His
30 50 55 60
31 Ala Lys Arg Thr Tyr Arg Glu Leu Arg Leu Leu Lys His Met Lys His
32 65 70 75 80
33 Glu Asn Val Ile Gly Leu Leu Asp Val Phe Thr Pro Ala Arg Ser Leu
34 85 90 95
35 Glu Glu Phe Asn Asp Val Tyr Leu Val Thr His Leu Met Gly Ala Asp
36 100 105 110
37 Leu Asn Asn Ile Val Lys Cys Gln Lys Leu Thr Asp Asp His Val Gln
38 115 120 125
39 Phe Leu Ile Tyr Gln Ile Leu Arg Gly Leu Lys Tyr Ile His Ser Ala
40 130 135 140
41 Asp Ile Ile His Arg Asp Leu Lys Pro Ser Asn Leu Ala Val Asn Glu
42 145 150 155 160
43 Asp Cys Glu Leu Lys Ile Leu Asp Phe Gly Leu Ala Arg His Thr Asp
44 165 170 175
45 Asp Glu Met Thr Gly Tyr Val Ala Thr Arg Trp Tyr Arg Ala Pro Glu
46 180 185 190
47 Ile Met Leu Asn Trp Met His Tyr Asn Gln Thr Val Asp Ile Trp Ser
48 195 200 205
49 Val Gly Cys Ile Met Ala Glu Leu Leu Thr Gly Arg Thr Leu Phe Pro
50 210 215 220

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```

51 Gly Thr Asp His Ile Asp Gln Leu Lys Leu Ile Leu Arg Leu Val Gly
52 225                230                235                240
53 Thr Pro Gly Ala Glu Leu Leu Lys Lys Ile Ser Ser Glu Ser Ala Arg
54                245                250                255
55 Asn Tyr Ile Gln Ser Leu Ala Gln Met Pro Lys Met Asn Phe Ala Asn
56                260                265                270
57 Val Phe Ile Gly Ala Asn Pro Leu Ala Val Asp Leu Leu Glu Lys Met
58                275                280                285
59 Leu Val Leu Asp Ser Asp Lys Arg Ile Thr Ala Ala Gln Ala Leu Ala
60                290                295                300
61 His Ala Tyr Phe Ala Gln Tyr His Asp Pro Asp Asp Glu Pro Val Ala
62 305                310                315                320
63 Asp Pro Tyr Asp Gln Ser Phe Glu Ser Arg Asp Leu Leu Ile Asp Glu
64                325                330                335
65 Trp Lys Ser Leu Thr Tyr Asp Glu Val Ile Ser Phe Val Pro Pro Pro
66                340                345                350
67 Leu Asp Gln Glu Glu Met Glu Ser
68                355                360
71 <210> SEQ ID NO: 2
72 <211> LENGTH: 379
73 <212> TYPE: PRT
74 <213> ORGANISM: Rattus norvegicus
76 <308> DATABASE ACCESSION NO: AAF21978
77 <309> DATABASE ENTRY DATE: 2001-01-01
79 <400> SEQUENCE: 2
80 Met Ser Trp Ser Pro Ser Leu Pro Thr Gln Thr Cys Gly Ala Trp Glu
81 1                5                10                15
82 Met Lys Glu Arg Leu Gly Thr Gly Gly Phe Gly Asn Val Ile Arg Trp
83                20                25                30
84 His Asn Gln Val Thr Gly Glu Gln Ile Ala Ile Lys Gln Cys Arg Gln
85                35                40                45
86 Glu Leu Ser Pro Lys Asn Arg Asp Arg Trp Cys Leu Glu Ile Gln Ile
87                50                55                60
88 Met Arg Arg Leu Asn His Pro Asn Val Val Ala Arg Asp Val Pro
89 65                70                75                80
90 Glu Gly Met Gln Asn Leu Ala Pro Asn Asp Leu Pro Leu Leu Ala Met
91                85                90                95
92 Glu Tyr Cys Gln Gly Gly Asp Leu Arg Arg Tyr Leu Asn Gln Phe Glu
93                100               105               110
94 Asn Cys Cys Gly Leu Arg Glu Gly Ala Ile Leu Thr Leu Leu Ser Asp
95                115               120               125
96 Ile Ala Ser Ala Leu Arg Tyr Leu His Glu Asn Arg Ile Ile His Arg
97                130               135               140
98 Asp Leu Lys Pro Glu Asn Ile Val Leu Gln Gln Gly Glu Lys Arg Leu
99 145                150               155               160
100 Ile His Lys Ile Ile Asp Leu Gly Tyr Ala Lys Glu Leu Asp Gln Gly
101                165               170               175
102 Ser Leu Cys Thr Ser Phe Val Gly Thr Leu Gln Tyr Leu Ala Pro Glu
103                180               185               190

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```

104 Leu Leu Glu Gln Gln Lys Tyr Thr Val Thr Val Asp Tyr Trp Ser Phe
105           195                200                205
106 Gly Thr Leu Ala Phe Glu Cys Ile Thr Gly Phe Arg Pro Phe Leu Pro
107       210                215                220
108 Asn Trp Gln Pro Val Gln Trp His Ser Lys Val Arg Gln Lys Ser Glu
109 225                230                235                240
110 Val Asp Ile Val Val Ser Glu Asp Leu Asn Gly Thr Val Lys Phe Ser
111           245                250                255
112 Ser Ser Ser Pro Phe Pro Asn Asn Leu Asn Ser Val Leu Ala Glu Arg
113           260                265                270
114 Leu Glu Lys Trp Leu Gln Leu Met Leu Thr Trp Gln Pro Arg Gln Arg
115       275                280                285
116 Gly Val Asp Pro Gln Tyr Gly Pro Asn Gly Cys Phe Arg Ala Leu Asp
117       290                295                300
118 Asp Ile Leu Asn Leu Lys Leu Val His Ile Leu Asn Met Val Thr Gly
119 305                310                315                320
120 Thr Ile His Thr Tyr Pro Val Met Glu Asp Glu Ser Leu Gln Ser Leu
121           325                330                335
122 Lys Thr Arg Ile Arg Glu Asp Thr Gly Ile Leu Glu Thr Asp Gln Glu
123           340                345                350
124 Leu Leu Gln Glu Ala Gly Leu Val Leu Leu Pro Asp Lys Pro Ala Thr
125       355                360                365
126 Gln Cys Ile Ser Asp Ser Lys Thr Asn Glu Gly
127       370                375

```

130 <210> SEQ ID NO: 3

131 <211> LENGTH: 349

132 <212> TYPE: PRT

133 <213> ORGANISM: Artificial Sequence

135 <220> FEATURE:

136 <223> OTHER INFORMATION: Consensus sequence of p38 and ikk

138 <221> NAME/KEY: VARIANT

139 <222> LOCATION: (26)...(26)

140 <223> OTHER INFORMATION: Phe or Tyr

142 <221> NAME/KEY: VARIANT

143 <222> LOCATION: (41)...(41)

144 <223> OTHER INFORMATION: Ile or Val

146 <221> NAME/KEY: VARIANT

147 <222> LOCATION: (43)...(43)

148 <223> OTHER INFORMATION: Ile or Val

150 <221> NAME/KEY: VARIANT

151 <222> LOCATION: (65)...(65)

152 <223> OTHER INFORMATION: Met or Leu

154 <221> NAME/KEY: VARIANT

155 <222> LOCATION: (68)...(68)

156 <223> OTHER INFORMATION: Met or Leu

158 <221> NAME/KEY: VARIANT

159 <222> LOCATION: (74)...(74)

160 <223> OTHER INFORMATION: Ile or Val

162 <221> NAME/KEY: VARIANT

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Input Set : A:\09918873SeqList.txt

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163 <222> LOCATION: (105)...(105)
164 <223> OTHER INFORMATION: Asn or Gln
166 <221> NAME/KEY: VARIANT
167 <222> LOCATION: (114)...(114)
168 <223> OTHER INFORMATION: Asp or Glu
170 <221> NAME/KEY: VARIANT
171 <222> LOCATION: (117)...(117)
172 <223> OTHER INFORMATION: Ile of Val
174 <221> NAME/KEY: VARIANT
175 <222> LOCATION: (123)...(123)
176 <223> OTHER INFORMATION: Asn or Gln
178 <221> NAME/KEY: VARIANT
179 <222> LOCATION: (149)...(149)
180 <223> OTHER INFORMATION: Asn or Gln
182 <221> NAME/KEY: VARIANT
183 <222> LOCATION: (167)...(167)
184 <223> OTHER INFORMATION: Asp or Gln
186 <221> NAME/KEY: VARIANT
187 <222> LOCATION: (172)...(172)
188 <223> OTHER INFORMATION: Phe or Tyr
190 <221> NAME/KEY: VARIANT
191 <222> LOCATION: (185)...(185)
192 <223> OTHER INFORMATION: Asn or Glu
194 <221> NAME/KEY: VARIANT
195 <222> LOCATION: (216)...(216)
196 <223> OTHER INFORMATION: Asp or Gln
198 <221> NAME/KEY: VARIANT
199 <222> LOCATION: (218)...(218)
200 <223> OTHER INFORMATION: Ile or Val
202 <221> NAME/KEY: VARIANT
203 <222> LOCATION: (219)...(219)
204 <223> OTHER INFORMATION: Asp or Gln
206 <221> NAME/KEY: VARIANT
207 <222> LOCATION: (234)...(234)
208 <223> OTHER INFORMATION: Asn or Glu
210 <221> NAME/KEY: VARIANT
211 <222> LOCATION: (249)...(249)
212 <223> OTHER INFORMATION: Asn or Gln
214 <221> NAME/KEY: VARIANT
215 <222> LOCATION: (261)...(261)
216 <223> OTHER INFORMATION: Asn or Gln
218 <221> NAME/KEY: VARIANT
219 <222> LOCATION: (267)...(267)
220 <223> OTHER INFORMATION: Asn or Gln
222 <221> NAME/KEY: VARIANT
223 <222> LOCATION: (304)...(304)
224 <223> OTHER INFORMATION: Asp or Glu
226 <221> NAME/KEY: VARIANT
227 <222> LOCATION: (325)...(325)

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```

228 <223> OTHER INFORMATION: Asp or Glu
230 <221> NAME/KEY: VARIANT
231 <222> LOCATION: (335)...(335)
232 <223> OTHER INFORMATION: Ile or Val
234 <221> NAME/KEY: VARIANT
235 <222> LOCATION: (348)...(348)
236 <223> OTHER INFORMATION: Asp or Glu
238 <400> SEQUENCE: 3
239 Met Gln Glu Arg Pro Ser Leu Pro Arg Gln Glu Cys Asn Ala Trp Glu
240 1 5 10 15
W--> 241 Met Lys Glu Arg Leu Gly Ser Gly Ala Xaa Gly Asn Val Cys Ala Ala
242 20 25 30
W--> 243 His Asx Gln Lys Thr Gly Glu Arg Xaa Ala Xaa Lys Gln Cys Arg Arg
244 35 40 45
245 Glu Leu Ser Ile Ile Asn Ala Asp Arg Thr Cys Arg Glu Ile Arg Ile
246 50 55 60
W--> 247 Xaa Arg Arg Xaa Asn His Glu Asn Val Xaa Ala Ala Arg Asp Val Phe
248 65 70 75 80
249 Glu Gly Ala Arg Asn Leu Ala Glu Asn Asx Asp Leu Leu Ala Met Glu
250 85 90 95
W--> 251 His Cys Gln Gly Ala Asp Leu Asn Xaa Ile Glu Asn Cys Cys Gly Leu
252 100 105 110
W--> 253 Arg Xaa Asp Ala Xaa Gln Phe Leu Ile Ser Xaa Ile Ala Arg Ala Leu
254 115 120 125
255 Arg Tyr Ile His Glu Ala Arg Ile Ile His Arg Asp Leu Lys Pro Glu
256 130 135 140
W--> 257 Asn Ile Ala Leu Xaa Glx Asp Cys Glu Arg Lys Ile Ile Asp Leu Gly
258 145 150 155 160
W--> 259 Leu Ala Arg Glu Leu Asp Xaa Glu Met Thr Gly Xaa Val Ala Thr Arg
260 165 170 175
W--> 261 Gln Tyr Arg Ala Pro Glu Ile Leu Xaa Gln Gln His Tyr Asn Gln Thr
262 180 185 190
263 Val Asp Ile Trp Ser Phe Gly Cys Ile Ala Ala Glu Cys Ile Thr Gly
264 195 200 205
W--> 265 Arg Pro Leu Leu Pro Asn Thr Xaa His Xaa Xaa Arg Gln Lys Leu Glu
266 210 215 220
W--> 267 Leu Arg Ile Val Gly Ser Glu Asp Ala Xaa Gly Leu Lys Lys Ile Ser
268 225 230 235 240
W--> 269 Ser Glu Ser Ala Arg Asn Asn Ile Xaa Ser Leu Ala Ala Glu Arg Leu
270 245 250 255
W--> 271 Glu Asn Phe Ala Xaa Leu Met Ile Gly Ala Xaa Pro Arg Ala Arg Asp
272 260 265 270
273 Leu Asp Glu Gln Met Arg Ala Leu Asp Asp Asp Leu Arg Ile Lys Ala
274 275 280 285
W--> 275 Ala Gln Ala Leu Ala His Ala Thr Ile Ala Gln Tyr His Asp Met Xaa
276 290 295 300
277 Asp Glu Pro Leu Ala Asp Leu Lys Asp Arg Ile Arg Glu Asp Arg Asp
278 305 310 315 320
W--> 279 Ile Leu Glu Asp Xaa Gln Glu Leu Leu Gln Glu Ala Glu Leu Xaa Leu

```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:241 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:247 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:253 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:265 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:267 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:269 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:271 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:275 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:279 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:281 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:451 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:461 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:463 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:465 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:471 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:473 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:475 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:477 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:481 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:485 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:487 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:489 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5